

## APPENDIX

## Changes to Claims:

Claims 3-6, 10-12 and 18-24 are canceled.

Claims 27-64 are added.

The following is a marked-up version of the amended claims:

1. (Twice Amended) An isolated polynucleotide~~Nucleic material, in isolated or purified state~~, comprising a nucleic acid having a nucleotide sequence chosen selected from the group ~~which consists~~ consisting of:

\_\_\_\_\_ (i) ~~the sequences~~ SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 9, SEQ ID NO: 12, SEQ ID NO: 16, SEQ ID NO: 21, SEQ ID NO: 30 and SEQ ID NO: 31;

\_\_\_\_\_ (ii) ~~the sequences~~ complementary to sequences (i); and

\_\_\_\_\_ (iii) ~~the sequences equivalent to sequences (i) or (ii), in particular the sequences having, for every series of 100 contiguous monomers, at least 50%, and preferentially at least 70% homology~~ identity with sequences (i) or (ii) ~~respectively~~.

2. (Twice Amended) An isolated polynucleotide~~Nucleic material, in isolated or purified state~~, encoding a polypeptide having, for every contiguous series of at least 30 amino acids, at least 50%, ~~and preferably at least 70% homology~~ identity with a peptide sequence ~~chosen selected~~ from the group ~~which consists~~ consisting of SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 10, SEQ ID NO: 13, SEQ ID NO: 25 and SEQ ID NO: 26.

7. (Twice Amended) An isolated ~~Retroviral-nucleic material~~ polynucleotide comprising an env gene, in which the wherein said env gene comprises a nucleic acid having a nucleotide sequence identical or equivalent to a sequence chosen selected from the group ~~which consists~~ consisting of SEQ ID NO: 9, and its complementary sequences, and sequences having, for every series of 100 contiguous monomers, at least 50% identity with SEQ ID NO: 9 or said complementary sequence.

8. (Twice Amended) The isolated Retroviral nucleic material polynucleotide according to claim 7, in which wherein the env gene further comprises a portion of SEQ ID NO: 9, wherein said portion nucleotide sequence which starts at nucleotide 1 of SEQ ID NO: 9 and ends at nucleotide 233 of SEQ ID NO: 6.

9. (Twice Amended) An isolated Retroviral nucleic material polynucleotide comprising an env gene, in which the wherein said env gene encodes a polypeptide having, for every contiguous series of at least 30 amino acids, at least 50%, and preferably at least 70% homology identity with the peptide sequence SEQ ID NO: 10.

13. (Twice Amended) The Retroviral nucleic material polynucleotide according to claim 3, characterized in that it wherein said retroviral polynucleotide is associated with at least one autoimmune disease such as multiple sclerosis or rheumatoid arthritis.

14. (Twice Amended) An isolated Nucleotide fragment comprising a polynucleotide having a nucleotide sequence chosen selected from the group which consists consisting of:

\_\_\_\_\_ (i) ~~the~~ sequences SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 9, SEQ ID NO: 12, SEQ ID NO: 16, SEQ ID NO: 21, SEQ ID NO: 30 and SEQ ID NO: 31;

\_\_\_\_\_ (ii) ~~the~~ sequences complementary to sequences (i); and

\_\_\_\_\_ (iii) ~~the~~ sequences equivalent to sequences (i) or (ii), in particular the sequences having, for every series of 100 contiguous monomers, at least 50%, and preferentially at least 70% homology identity with sequences (i) or (ii) respectively.

15. (Twice Amended) The Nucleotide fragment according to Claim 14, consisting of a polynucleotide having a nucleotide sequence chosen selected from the group which consists consisting of:

\_\_\_\_\_ (i) ~~the~~ sequences SEQ ID NO: 4, SEQ ID NO: 6, SEQ ID NO: 9, SEQ ID NO: 12, SEQ ID NO: 16, SEQ ID NO: 21, SEQ ID NO: 30 and SEQ ID NO: 31;

\_\_\_\_\_ (ii) ~~the~~ sequences complementary to sequences (i); and

\_\_\_\_\_ (iii) ~~the sequences equivalent to sequences (i) or (ii), in particular the sequences~~  
having, for every series of 100 contiguous monomers, at least 50%, ~~and preferentially at least~~  
70% ~~homology~~ identity with sequences (i) or (ii) ~~respectively~~.

16. (Twice Amended) An isolated Nucleotide fragment comprising a  
polynucleotide having a nucleotide sequence encoding a polypeptide having, for every  
contiguous series of at least 30 amino acids, at least 50%, ~~and preferably at least 70%~~  
~~homology~~ identity with a peptide sequence ~~chosen~~ selected from the group which  
~~consists~~ consisting of SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 10, SEQ ID NO: 13, SEQ  
ID NO: 25 and SEQ ID NO: 26.

17. (Twice Amended) The Nucleotide fragment according to claim 16, consisting  
of a polynucleotide having a nucleotide sequence encoding a polypeptide having, for every  
contiguous series of at least 30 amino acids, at least 50%, ~~and preferably at least 70%~~  
~~homology~~ identity with a peptide sequence ~~chosen~~ selected from the group which  
~~consists~~ consisting of SEQ ID NO: 5, SEQ ID NO: 7, SEQ ID NO: 10, SEQ ID NO: 13, SEQ  
ID NO: 25 and SEQ ID NO: 26.

25. (Twice Amended) A ~~D~~ diagnostic, prophylactic or therapeutic composition, in  
particular for inhibiting the expression of at least one retrovirus associated with multiple  
sclerosis and/or rheumatoid arthritis, comprising a nucleotide fragment according to claim 14.

26. (Twice Amended) A ~~M~~ method for detecting a retrovirus associated with  
multiple sclerosis and/or rheumatoid arthritis, in a biological sample, characterized in that an  
RNA and/or a DNA assumed to belong to or obtained from said retrovirus, or their  
complementary RNA and/or DNA, is brought into contact with a composition comprising a  
nucleotide fragment according to claim 14.